

DOCUMENT RESUME

ED 091 800

EA 005 631

TITLE ERIC Abstracts: A Collection of ERIC Document Resumes on Program Evaluation. ERIC Abstracts Series, Number 33.

INSTITUTION American Association of School Administrators, Washington, D.C. National Academy for School Executives.; Oregon Univ., Eugene. ERIC Clearinghouse on Educational Management.

SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.

PUB DATE 73

CONTRACT OEC-0-8-080353-3514

NOTE 28p.

AVAILABLE FROM National Academy for School Executives, 1801 N. Moore Street, Arlington, Virginia 22209 (Stock No. 33-021-00412, \$2.00)

EDRS PRICE MF-\$0.75 HC-\$1.85 PLUS POSTAGE

DESCRIPTORS *Annotated Bibliographies; Computer Oriented Programs; Educational Objectives; *Educational Programs; Elementary Schools; Evaluation; *Evaluation Criteria; *Evaluation Techniques; *Program Evaluation; Secondary Schools

ABSTRACT

Documents in this annotated bibliography provide specific instruments and procedures for evaluation of educational programs. Several bibliographies and documents on theoretical concerns of program evaluation are also included, but the orientation of the abstracts as a whole is toward the practical, rather than the theoretical. The listing is complete for all issues of RIE through September 1973 and includes documents processed by this and other clearinghouses. Based on the document resumes in RIE, the following information is presented for each document: personal or institutional author, title, place of publication, publisher, publication date, number of pages, ERIC document (ED) number, price of the document if it is available from the ERIC Document Reproduction Service, and the abstract. Documents are listed alphabetically by author and are numbered. (Author)

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRO-
DUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIGIN-
ATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRE-
SENT OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY.

AASA

ERIC Abstracts on:

*Program
Evaluation*

ERIC Abstracts

A Collection of ERIC Document Resumes on

Program Evaluation

Compiled by

the

**ERIC Clearinghouse on
Educational Management
University of Oregon
Eugene, Oregon 97403**

1973

PREVIOUS TITLES IN THIS SERIES

1. **Collective Negotiations in Education**
2. **Human Relations in Educational Administration**
3. **Public Relations in Education**
4. **Politics and Power Structure: Influence on Education**
5. **Program Budgeting and Cost Analysis**
6. **Urban Crises and Educational Administration**
7. **Impact of Racial Issues on Educational Administration**
8. **Systems Approaches in Education**
9. **Educational Assessment**
10. **The School Principalship: Crisis in Middle Management**
11. **Inservice Education for Staff and Administrators**
12. **Performance Objectives**
13. **Citizen Involvement in the Control of Schools**
14. **Educational Planning**
15. **The Politics and Economics of School Finance**
16. **The Drug Problem and the Schools**
17. **Developing Vocational Education Programs in the Public Schools**
18. **Organizational Renewal: Change and the School Administrator**
19. **Differentiated Staffing**
20. **Evaluating Teacher Effectiveness**
21. **Collective Negotiations and the Administrator**
22. **Alternative Schooling: New Patterns in Education**
23. **Assessing Educational Innovations**
24. **Open Space Schools**
25. **Planning, Programming, Budgeting Systems**
26. **Educational Assessment**
27. **Educational Planning**
28. **Competency-Based Evaluation of Educational Staff**
29. **Needs Assessment in Education**
30. **The Use of Futurism in Educational Planning**
31. **The Year-Round School**
32. **Management by Objectives**

Write to AASA-NASE for a list of titles still in print.

PREFACE

The Educational Resources Information Center (ERIC) is a national information system operated by the National Institute of Education. ERIC serves the educational community by disseminating educational research results and other resource information that can be used in developing more effective educational programs.

The ERIC Clearinghouse on Educational Management, one of several clearinghouses in the system, was established at the University of Oregon in 1966. The Clearinghouse and its companion units process research reports and journal articles for announcement in ERIC's index and abstract bulletins.

Research reports are announced in Research in Education (RIE), available in many libraries and by subscription for \$21 a year from the United States Government Printing Office, Washington, D.C. 20402. Most of the documents listed in RIE can be purchased through the ERIC Document Reproduction Service, operated by Leasco Information Products, Inc.

Journal articles are announced in Current Index to Journals in Education. CIJE is also available in many libraries and can be ordered for \$39 a year from CCM Information Corporation, 866 Third Avenue, Room 1126, New York, New York 10022. Annual and semiannual cumulations can be ordered separately.

Besides processing documents and journal articles, the Clearinghouse has another major function--information analysis and synthesis. The Clearinghouse prepares bibliographies, literature reviews, state-of-the-knowledge papers, and other interpretive research studies on topics in its educational area.

The ERIC Abstracts series is the result of a cooperative arrangement between the Clearinghouse and the National Academy for School Executives (NASE) of the American Association of School Administrators. The Clearinghouse compiles the abstracts from document resumes in Research in Education to provide participants in a series of NASE-sponsored seminars with an up-to-date collection of ERIC materials on subjects to be presented in these seminars. Additional copies of the abstracts are published by NASE and distributed across the country to school administrators and others interested in educational administration.

Phillip K. Plele
Director, ERIC Clearinghouse
on Educational Management

The material in this publication was prepared pursuant to a contract with the National Institute of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Prior to publication, the manuscript was submitted to the American Association of School Administrators for critical review and determination of professional competence. This publication has met such standards. Points of view or opinions, however, do not necessarily represent the official view or opinions of either the American Association of School Administrators or the National Institute of Education.

ERIC Abstracts Series, Number Thirty-three

Published by

**National Academy for School Executives
1801 North Moore Street
Arlington, Virginia 22209**

Single copy, \$2.00

**Unless otherwise specified, prices quoted are for single copies and are subject to the following discounts on quantity orders of the same publication shipped to one address:
1 copy at list price; 2 to 9 copies, 10%;
10 or more copies, 20%. Postage charged on billed orders.**

AASA Stock No.: 33-021-00412

INTRODUCTION

Since the beginning of ERIC in 1966, more than sixty thousand documents have been announced in ERIC's monthly catalog, Research in Education (RIE). Of the total, more than five thousand documents have been processed by this Clearinghouse. This growing collection is so extensive that it is useful to compile lists of ERIC documents on a number of critical topics in educational management. Published separately, these lists of documents make up the ERIC Abstracts series.

To compile each list, the RIE subject indexes are searched, using key terms that define the topic. The documents are selected on the basis of their currency, significance, and relevance to the topic.

For this compilation on program evaluation, the index term used is PROGRAM EVALUATION. The documents provide, for the most part, specific procedures and instruments for evaluation of educational programs. Three annotated bibliographies and nine documents on the theory of program evaluation are also included (for a more theory-oriented approach to program evaluation, see ERIC Management Review Number 21, Program Evaluation, available free from the ERIC Clearinghouse on Educational Management, University of Oregon, Eugene, Oregon 97403). The listing is complete for all issues of RIE through September 1973 and includes documents processed by this and other clearinghouses.

Based on the document resumes in RIE, the following information is presented for each document: personal or institutional author, title, place of publication, publisher, publication date, number of pages, ERIC document ("ED") number, price of the document if it is available from the ERIC Document Reproduction Service, and the abstract. The documents are listed alphabetically by author and are numbered.

A subject index, beginning on page 20, refers to the document listing number. The subject terms, arranged in alphabetical order, are identical to those contained in the subject index of RIE.

HOW TO ORDER ERIC DOCUMENTS

Most of the documents listed on the following pages can be ordered from the ERIC Document Reproduction Service. If a document is available from EDRS, its prices for both hard copy and microfiche are cited after the document's "ED" number. To order documents from EDRS, indicate:

- the ED numbers of the desired documents (titles need not be furnished)
- the type of reproduction desired--hard copy (HC) or microfiche (MF)
- the number of copies being ordered

Payment must accompany orders under \$10.00. Postage, at book rate or library rate, is included in the price of the document. If first-class mailing is desired or if shipment is outside the continental United States, the difference between book rate or library rate and first-class or foreign postage will be billed at cost. All orders must be in writing.

Address requests to:

ERIC Document Reproduction Service
P. O. Drawer O
Bethesda, Maryland 20014

1. Aeblscher, Delmer W. Self-Evaluation Checklist for School Music Programs. (Grades 1-6 and Administrator's Form.) Salem: Oregon State Board of Education, 1971. 27 pages. ED 069 582 MF \$0.65 HC \$3.29.

Three checklists for evaluating elementary school music programs are designed for music teachers and administrators at the primary and intermediate levels. The instruments identify weaknesses and strengths of the school program--for teachers in the areas of rhythm, melody, harmony, form, expressive elements, creativity, listening, classroom performance, and overall evaluation, and for administrators in the areas of scheduling, materials, equipment, facilities, and overall evaluation. Items are rated poor, fair, good, or excellent. The checklists were developed through university research, in-district test use, and subsequent review by a committee of music educators and administrators.

2. American Association of School Administrators. ERIC Abstracts: A Collection of ERIC Document Resumes on Assessing Educational Innovations. ERIC Abstracts Series, Number Twenty-three. Washington, D.C.: National Academy for School Executives, 1972. 21 pages. ED 070 177 MF \$0.65 HC \$3.29. (Also available from National Academy for School Executives, 1801 North Moore Street, Arlington, Virginia 22209. \$2.00, quantity discount.)

The documents included in this annotated bibliography concern the change process, the choice and use of good ideas, and the development of assessment and evaluation procedures for determining the achievement of objectives. The following information is presented for each document: author, title, place of publication, publisher, publication date, number of pages, ERIC document (ED) number, price, availability, and the abstract. A subject index is appended.

3. Andersen, Dale G., and others. Guidance Evaluation Guidelines. Guidelines for Evaluation of Counseling and Guidance Programs. Olympia: Washington State Board of Education, 1967. 37 pages. ED 049 480 MF \$0.65 HC \$3.29.

Particular aspects of evaluating counseling and guidance programs are discussed, as are various services that must be included if such programs are to serve the total educational program optimally. A short discussion of the importance of evaluation, its guiding philosophy, evaluation of staff qualities, and evaluation techniques is followed by delineation of the dimensions of an evaluation study. These dimensions include organizational and administrative structure, physical facilities, guidance personnel, and guidance services. The authors briefly consider available federal, state, and local resources. A select bibliography concludes the publication.

4. Borg, Walter R. Three Levels of Evaluation for Educational Products. 1971. 10 pages. ED 054 229 MF \$0.65 HC \$3.29.

Three levels of evaluation can be used to assess educational products and processes. The three levels--unvalidated form of experience, validated form of experience, and direct performance evaluation--are each described in detail. The author also discusses the factors involved in selection of the evaluation model.

5. Carpenter, C. R., and Froke, Marlowe. Description of a Practical Procedure for Assessing Instructional Film and Television Programs. University Park: Department of Psychology, Pennsylvania State University, 1968. 43 pages. ED 037 102 MF \$0.65 HC \$3.29.

A panel was formed to evaluate attributes of instructional film and instructional television programs that affect learning behavior. The panel found the exercise rewarding enough to recommend that additional panels of target audiences, educational specialists, content specialists, production specialists, and media specialists be set up as a system of evaluation for instructional television and film programs. The meetings are fully documented.

6. Cook, Desmond L. Program Evaluation and Review Technique--Applications in Education. Washington, D.C.: Office of Education, Department of Health, Education, and Welfare, 1966. 109 pages. ED 015 533 MF \$0.65 HC not available from EDRS.

This monograph discusses the basic concepts and principles of a project management information system entitled program evaluation and review technique (PERT). PERT is a methodology for planning diverse activities in either large or small projects. Steps in the PERT technique include work breakdown structure, network development, activity time estimation, network time calculation, scheduling, probability aspects of PERT, re-planning the project, and PERT-cost. Several models illustrate areas in which PERT can be applied to educational research and development projects. These areas are experimental research, survey research, historical research, developmental projects, curriculum development, educational service projects, research integration projects, and theory development projects. The author also details practical considerations for implementing PERT in educational research and development projects.

7. Educational Innovators Press. Performance and Process Objectives. Booklet for Developing Evaluative Skills Number 7. Tucson, Arizona: 1970. 30 pages. ED 054 606 Document not available from EDRS. (Available from Educational Innovators Press, P. O. Box 13052, Tucson, Arizona 85711. \$2.25.)

A brief introductory booklet defines performance and process objectives and the contributions of each to the steps necessary for incorporating accountability in the evaluation of a given educational program. The text provides a set of procedures for developing and writing both performance and process objectives. The validity of process objectives can be determined only when they can be related to performance objectives. This necessitates the development and writing of performance objectives at all levels of the educational structure for which process objectives are to be written.

8. Eldell, Terry L., and Klebe, John A., compilers. Annotated Bibliography on the Evaluation of Educational Programs. Eugene: ERIC Clearinghouse on Educational Administration, University of Oregon, 1968. 19 pages. ED 025 857 MF \$0.65 HC \$3.29.

Sixty-four books, pamphlets, papers, and journal articles published through 1968 are listed in this annotated bibliography on educational program evaluation on the elementary, secondary, and higher education levels. Topics covered include evaluation of school subject programs, vocational programs, state aid programs, curriculum, educational planning, federal programs, teaching quality, educational change, and educational outcomes and quality. Some entries pertain to the development and use of mathematical models and cost-benefit analysis for evaluative purposes. Emphasis is on the methods, procedures, models, and exemplars of educational program evaluation.

9. EPIC Evaluation Center. A Structure and Scheme for the Evaluation of Innovative Programs. The EPIC Brief, Issue No. 2. n.d. 19 pages. ED 028 103 MF \$0.65 HC \$3.29.

Objective evaluation of school programs is a process in which a school staff collects information to ascertain whether a given set of objectives has been met. The Evaluative Programs for Innovative Curriculums (EPIC) four-step scheme of objective evaluation is based on a three-dimensional structure of variables influencing instructional programs. The instructional dimension includes organization, content, method, facilities, and cost. The institutional dimension refers to students, teachers, administrators, educational specialists, the family, and the community. The behavioral dimension concerns the psychomotor, affective, and cognitive domains. Planned program, the first step in the EPIC scheme, involves identifying the variables affecting the instructional program under consideration, combining variables into factors, writing behavioral (performance) objectives, and developing the evaluative design. The second step is program description and data gathering. Next is data analysis. The decision-making recycling process is the final step. The text illustrates the EPIC scheme by applying it to a specific program.

10. Fisher, Maurice D., and Ward, Virgil S. "A Design for Evaluating Educational Programs for Culturally Disadvantaged Children." Paper presented at American Educational Research Association annual meeting, Chicago, April 1972. 17 pages. ED 061 281 MF \$0.65 HC \$3.29.

The evaluation design described in this paper covers all significant aspects of program development and follow-through for culturally disadvantaged children. Educational objectives, instructional methods, implementation procedures, and outcomes are also reviewed.

11. Fleming, Margaret. "An Approach to Evaluation of a Reading Program in the Public School Setting." Paper presented at American Educational Research Association conference, Minneapolis, March 1970. 12 pages. ED 040 012 MF \$0.65 HC \$3.29.

The evaluation plan for the Reading Improvement Project in Cleveland's elementary schools is described in this document. The plan's formation was influenced by two guidelines: the necessity of providing procedures to overcome threats to the validity of the findings, thereby facilitating sound assessment of program effects, and a desire to remain sensitive and responsive to realities of the school worlds involved, particularly the concerns of pupils and staff participating in the project. Three critical issues were encountered: random assignment of pupils to project services, choice of a model of analysis appropriate to the program's data collection procedures, and determination of whether experimental and control pupils received significantly different final reading marks. The author lists covariates and dependent variables used as factors in the evaluation.

12. [Fresno County Department of Education.] Auvil, Mary S. PEAPOL (Program Evaluation at the Performance Objective Level) Outside Evaluation. Fresno, California: 1972. 9 pages. ED 072 219 MF \$0.65 HC \$3.29.

The PEAPOL (Program Evaluation at the Performance Objective Level) program developed a computer system for assessing student progress and cost-effectiveness relative to the achievement of performance objectives. Interviews were conducted with project participants, including project staff, school administrators, and auto shop instructors. Project documents were reviewed and a brief questionnaire used to obtain student opinions of this man-machine system. The system will serve as a valuable change agent if computer data is used to generate reports for action by appropriate personnel. The reports are useful for pinpointing individual and class differences. Suggestions for future applications follow summary statements about the program's success in achieving its objectives. Documents 12, 13, and 14 are related.

13. Fresno County Department of Education. PEAPOLI (Program Evaluation at the Performance Objective Level) User's Manual. Fresno, California: 1972. 77 pages. ED 072 220 MF \$0.65 HC \$3.29.

The purpose of this manual is to provide a nontechnical description of the Fresno County system of program evaluation. Intended for the school administrator, teacher, or researcher whose knowledge of electronic data processing is limited, the manual presents methods of using the system, procedures to support system operations, and interpretations that should be given to reports generated by PEAPOL. The system is designed to allow vocational teachers and district administrators to monitor student progress and costs incurred in individual classrooms. PEAPOL generates reports by linking progress data to cost data at the performance objective level of instruction. Topics discussed in this document include PEAPOL's capabilities and limitations, a rationale, PEAPOL's use in vocational education, collecting and developing class data, developing budget information, changing records, and interpreting program output. Documents 12, 13, and 14 are related.

14. Fresno County Department of Education. PEAPOLI (Program Evaluation at the Performance Objective Level) Technical Manual. Fresno, California: 1972. 100 pages. ED 072 221 MF \$0.65 HC \$3.29.

Intended for people familiar with data processing, this technical manual describes the internal operations of the PEAPOL (Program Evaluation at the Performance Objective Level) system and includes ten specific computer program descriptions with flow charts. The system generates a series of reports by linking progress data to cost data at the performance objective level of instruction and is designed to allow vocational teachers and district administrators to monitor student progress and costs incurred in individual classrooms. The text reviews operational procedures, noting several requirements for utilizing PEAPOL: performance objectives with time allotments must be established, individualized instruction is necessary, a time clock to record individual progress is required, and the school district must have access to a computer system programmed for PEAPOL. Documents 12, 13, and 14 are related.

15. Glassner, Leonard E. Handbook for Evaluators. Pennsylvania: Office of Research, Pittsburgh Public Schools, 1969. 62 pages. ED 035 980 MF \$0.65 HC \$3.29.

This handbook provides an orientation to the Discrepancy Evaluation Model and a detailed outline of the administrative procedures necessary to conduct day-to-day activities in the first two stages of program evaluation. Guidelines for the first stage stress the need for coordination between the evaluator and the program staff while planning, generating,

and amending the program evaluation design. Second stage guidelines specify requirements for implementing the evaluation design developed in the first stage. The appendix includes summaries of completed evaluations of the Pittsburgh kindergarten program.

16. Gold, Ben K. "Evaluation of Programs." Paper presented at conference sponsored by Compensatory Education Project, Coordinating Board, Texas College and University System, Austin, April 1971. 20 pages. ED 048 845 MF \$0.65 HC \$3.29.

Evaluation should be a process for collecting information to make better decisions. The author discusses in detail four planning stages in program evaluation. The first stage requires the evaluator to ascertain the decision areas of concern. In the second stage, the evaluator must select the appropriate information-gathering instruments. The third stage involves data collection and analysis prior to the decision-maker's deadline. In the final stage, the evaluator reports the findings to the decision-maker in time for use and in a readily understood form. The author offers eight references on the subject of evaluation.

17. Harman, Harry H., and others. Evaluation of Driver Education and Training Programs. Princeton, New Jersey: Educational Testing Service, 1969. 70 pages. ED 041 106 Document not available from EDRS. (Available from National Technical Information Service, Springfield, Virginia 22151. PB 183 805 MF \$0.95 HC \$6.00.)

An answer to the question, "What contributions do driver education and training programs make to the nation's highway safety program?" was sought through a synthesis of four feasibility studies concerning the effectiveness of current or proposed driver education programs. The preliminary investigations failed to identify any clear proof that driver education, as presently constituted, has a significantly favorable effect on driver performance, particularly as measured by accidents and traffic law violations. Therefore, a comprehensive model for evaluating driver education programs was developed, including both short-term and long-term activities. Short-term activities include driving task analysis, objectives of driver education, evaluation of program content, and specifications for long-term evaluation. Long-term activities are measures of driver performance, measures of program characteristics, measures of highway traffic system objectives, and research studies using proximate and ultimate criteria.

18. Hartwig, Keith E. A Basic Model for Planning, Monitoring, and Evaluating Educational Programs. 1971. 4 pages. ED 053 196 MF \$0.65 HC \$3.29.

This paper presents a brief description of a basic model for planning, monitoring, and evaluating educational programs using managerial concepts. The model involves five steps: identification of a need; statement of desired outcomes (objectives); development of a program, including processes and resources; ongoing evaluation (monitoring); and terminal evaluation. The approach is straightforward and easily understood by anyone lacking sophistication in a management approach to education. The model is in the developmental stage and is by no means complete. The system has been found useful in presenting a management approach to education to teachers and school administrators.

19. Jacobs, Paul H. "Criteria for Evaluating High School English Programs." English Journal, 57, 9 (December 1968), pp. 1275-1296. ED 029 024
Document not available from EDRS.

Designed to assist English teachers and departments in analyzing and evaluating current programs, this checklist is divided into four parts: basic organization and procedures of the English program (25 criteria); physical provisions for English instruction, both facilities and equipment (11 criteria) and materials (2 criteria); qualifications of English teachers (7 criteria); and English curriculum and instruction (103 criteria). The curriculum checklist is subdivided into three sections: the curriculum as a learning system, the curriculum as a whole, and the various parts of the curriculum--literature, language, composition (both written and oral), reading, and speech.

20. Jaeger, Richard M. "Evaluation of National Educational Programs: The Goals and the Instruments." Paper presented at American Educational Research Association annual meeting, Minneapolis, March 1970. Washington, D. C.: Bureau of Elementary and Secondary Education, Office of Education, Department of Health, Education, and Welfare. 20 pages. ED 041 949 MF \$0.65 HC \$3.29.

A joint comprehensive evaluation system for the assessment of fifteen federal programs has been developed by the United States Office of Education. Diverse program services will be treated as resources available to meet the needs of critical target groups. Nine crucial questions in program management need to be answered. The evaluative design to find the answers to these questions proposes to use the individual pupil as the unit of analysis. Using sample survey methods and multiple matrix sampling (different individuals complete different samples of test items), it will be possible to collect comparable and generalizable data without putting an undue testing burden on any one student. Data collection instruments are discussed in some detail.

21. Jay, Charles D., and Castle, Pat. Guidelines for Evaluating Foreign Language Programs. Springfield: Illinois State Office of the Superintendent of Public Instruction, n.d. 13 pages. ED 013 592 MF \$0.65 HC \$3.29.

A need for simplified criteria by which secondary schools can measure the excellence of their foreign language programs has stimulated the development of these guidelines. The guidelines are designed to assist in setting up the best possible audiolingually oriented curriculum to meet the individual needs of schools. Following an outline of basic information about sequence of study, texts and materials, and electronic equipment, the guide lists, in questionnaire form, criteria that indicate superior foreign language programs. Highlighted in the questioning are the areas of general methodology; elementary, junior high, and beginning and advanced high school language programs; Latin programs; and testing and evaluation.

22. Kidder, Mary Jane, compiler. Searchlight: Relevant Resources in High Interest Areas. Program Evaluation and Accountability. 7R Retrospective Search. Ann Arbor, Michigan: ERIC Clearinghouse on Counseling and Personnel Services, 1971. 18 pages. ED 061 569 MF \$0.65 HC \$3.29. (Also available from ERIC/CAPS, Room 2180, School of Education Building, University of Michigan, Ann Arbor, Michigan 48104, \$1.00.)

A search of the ERIC system, Dissertation Abstracts, and journal literature has yielded 28 documents abstracted in this compilation. Documents review methods of program evaluation and the extent to which programs and counselors are effective in contributing to favorable student development.

23. Kilpatrick, Jeremy. "Evaluating a Unified Mathematics Curriculum." Presented at American Educational Research Association symposium, Minneapolis, March 1970. 4 pages. ED 042 811 MF \$0.65 HC \$3.29.

A method of evaluating the Secondary School Mathematics Curriculum Improvement Study (SSMCIS) is discussed. The main task of SSMCIS is production and tryout of textbook materials, although teacher training is also an important component of the study. Informal teacher feedback and sporadic testing provide the main thrust of the program evaluation. One study notes the discrepancy between the views of teachers and students on some features of the text materials and suggests the need to acquire more direct information from the students concerning course materials. Most evaluation activities have concentrated on support functions rather than the project itself. The conclusion raises the question of whether full-scale formative evaluation of the study would be any more effective in influencing curriculum revision.

24. Klein, Stephen P. "Ongoing Evaluation of Educational Programs." Paper presented at American Psychological Association convention, Honolulu, Hawaii, September 1972. 12 pages. ED 069 725 MF \$0.65 HC \$3.29.

Three distinctions are usually made between norm-referenced and criterion-referenced measures. These distinctions are in the areas of measurement forms (student performance in relation to the performance of other students or with respect to some specific criterion), general or specific types of objectives in which the measures are founded, and modes of construction (reliance on items that differentiate among students or items that reveal degree of mastery on a given objective). Examinations of how both types of measures are actually constructed and used, however, indicate that these distinctions are misleading and can weaken the overall value of the evaluation effort. For evaluation purposes, the essential difference between norm-referenced and criterion-referenced measures should not be viewed as an intrinsic measurement difference but as a question of interpretation of the measurement. Concerning ongoing evaluation, both norm-referenced and criterion-referenced interpretations are needed for such diverse purposes as identifying program components needing improvement, identifying students needing special attention, providing the basis for accountability systems, and determining whether a program is being implemented as planned. Unless both types of interpretations are made, realistic evaluations are impossible. Both types of interpretations are necessary for realistic evaluation.

25. Klit, John A., and Wentling, Tim L. "The Development and Implementation of a Statewide Evaluation System." Paper presented at American Educational Research Association convention, New Orleans, February 1973. 21 pages. ED 075 508 MF \$0.65 HC \$3.29.

An Illinois evaluation system has been designed to evaluate continuously the total occupational programs of Illinois local education agencies. Consisting of three phases, the system involves local planning, state review and evaluation of local planning documents, and onsite visitation of local education agencies by a team of individuals from outside the agency. The structure of the system also allows the state education agency staff to monitor any changes in local programs. Several aspects of the system have greatly enhanced its success: the total occupational program; the composition of the visiting team; the fact that all team members have input to aspects of the final report; suggested solutions to accomplish recommendations by the team; the nature of the summary conference, designed to eliminate errors in the report before printing; and a built-in followup of the system.

26. Lindvall, C. M., and Cox, Richard C. A Rationale and Plan for the Evaluation of the Individually Prescribed Instruction Project. Philadelphia;

Research for Better Schools, Inc., [1969]. 8 pages. ED 036 179 MF \$0.65 HC \$3.29.

Evaluation of an educational innovation can aid in development of the innovation and provide a basis for making judgments with respect to the innovation. This report discusses the Individually Prescribed Instruction (IPI) program and its approach to evaluation. IPI evaluation activities are carried out in six areas: program plan, operating program, school context, pupil behavior, teacher behavior, and unplanned influences and other variables.

27. Maxey, James. "Evaluation of the Outcomes of Modular Scheduling." Paper prepared for Iowa Center for Research in School Administration annual membership meeting. Iowa City: Iowa Center for Research in School Administration, University of Iowa, 1968. 10 pages. ED 026 733 MF \$0.65 HC \$3.29.

Four studies conducted on junior and senior high schools that have used some form of modular scheduling suggest that a proper way to evaluate flexible scheduling includes observation of behavior, measurement of attitudes and opinions, and assessment of pupil achievement. The text concludes that observable behavior can be evaluated by recording patterns of classroom activity; student, teacher, and parental views of flexible scheduling can be assessed via opinionnaires; the relative effectiveness of independent study, large-group instruction, and small-group activity can be evaluated through opinionnaires; and teaching effectiveness can be determined through comparative achievement testing.

28. McGuigan, F. J. How to Select and Evaluate Programmed Instructional Materials. Raleigh: School of Education, North Carolina State University, 1971. 20 pages. ED 051 455 MF \$0.65 HC \$3.29.

The large number of instructional programs commercially available at all educational levels presents the teacher with a major selection problem. This document explains the assessment procedures publishers should use to assure publication of only high quality programs. When he first receives a program, a publisher should have it checked by an expert and make a decision as to whether the program is academically sound and whether it is appropriate for a specific educational curriculum. The program is then objectively tested in a classroom situation. Once appropriate sample subjects are selected, the students are administered an objective achievement test as a pretest. Next, the students work through the program. Variables other than the program itself are minimized. On completion of the program, the students take the achievement test again as a posttest. Finally, students and teachers complete standard program evaluation forms. Data gathered from the pretests and

posttests, from the students' actual work on the program, and from the evaluation forms are then analyzed. The publisher's final decision whether or not to publish the program is made according to the criterion of the amount a student learns through use of the program.

29. Merriman, Howard O. Evaluation of Planned Educational Change at the Local Education Agency Level. Columbus: Evaluation Center, Ohio State University, 1967. 16 pages. ED 025 042 MF \$0.65 HC \$3.29.

Based on a systems analysis approach, a four-stage evaluation model called CIPP (context, input, process, product) assesses innovative programs in education. The model is both a way of viewing planned educational change and a decision-making tool for the administrator in the local education agency. Development of the model includes a method for organizing relevant factors of the total information flow, a procedure for identifying program deficiencies, and an extensive outline of evaluative criteria.

30. Mitzel, Harold E. How to Evaluate Computer Assisted Instruction. University Park: Pennsylvania State University, 1970. 6 pages. ED 047 005 MF \$0.65 HC \$3.29.

Rather than presenting a cookbook recipe for evaluation of computer assisted instruction (CAI), this document discusses a number of queries relevant to the evaluation of CAI. Is it possible that CAI offers opportunities to reach cognitive instructional objectives to which users of conventional methods do not aspire? Is it reasonable to compare CAI and conventional methods performance in a single subject when the pupils under study are enrolled in four or five other subjects taught by conventional processes? In an overall evaluation of CAI, how does one ensure the proper weighting of cognitive criteria based on pupil achievement and affective criteria based on pupil attitudes and feelings? If we classify the dependent variables of CAI evaluation into two categories, obtrusive and unobtrusive, are both equally persuasive to decision-makers? Some suggested unobtrusive measures are length of attention span, mastery time, and absentee rate.

31. Nelson, Helen Y., and Jacoby, Gertrude P. Evaluation of Secondary School Programs to Prepare Students for Wage Earning in Occupations Related to Home Economics. Final Report, Vol. II, Appendix. Ithaca: New York State College of Home Economics, 1967. 184 pages. ED 022 030 MF \$0.65 HC \$6.58.

The first section of this text contains a test battery: survey forms to determine attitudes toward work; descriptive rating scales for employability management, safety, and sanitation; descriptive rating scales for

food service workers and child care aides; tests of child care and food service employment preparation; student questionnaires of attitudes, interests, expectations, and self-concept; and an interview schedule. The second section offers employer and student descriptive rating scales and communications to student and employer for followup studies. The third section includes teacher record forms for work experience, financing, instructional materials, teacher attitudes toward the course, evaluation of the pilot program, preteaching and teaching time demands, child care facilities, and food service. The fourth section is an eighteen-page bibliography of books, pamphlets, magazines, newspapers, and audiovisual materials classified for occupational home economics, child care, and food services. The fifth section consists of guidance forms to gather information about personal and academic qualifications of students. The final section lists data analysis information.

32. Nivette, James D. A Rationale and Methodology for Designing Logical Evaluations for School Programs. Research Study Series, 1967-68. California: Los Angeles County Superintendent of Schools, 1969. 23 pages. ED 036 830 MF \$0.65 HC \$3.29.

This document discusses educational evaluation and design. Five steps are essential in evaluation: definition of educational objectives in behavioral terms, translation of the objective into descriptions of behavior, identification of situations in which the designated behavior can be observed, establishment of an interpretive device that can measure the desired growth, and statement of conclusions regarding the extent to which the objectives were achieved. Two tables present alternative methods for simple evaluation procedure designs. The development of objectives is also discussed. Objectives should describe what the student does, describe conditions under which his performance can be observed, and define the standards the student must meet. The evaluative process itself is considered. Five evaluative designs are reviewed, as is the use of control groups and standardized tests. Evaluative criteria dealing with interest might employ questionnaires, attendance records, case studies, and so forth. The author includes a list of standardized tests, including personality, interest, and achievement tests useful in evaluation. A statistical refresher contains definitions of measurement terms and a discussion of the nature and purposes of statistics in relation to evaluation designs.

33. Randall, Robert S. "An Operational Application of the Stufflebeam-Guba CIPP Model for Evaluation." Paper presented at American Educational Research Association annual meeting, Los Angeles, February 1969. 9 pages. ED 027 633 MF \$0.65 HC \$3.29.

The Stufflebeam-Guba CIPP (context, input, process, product) model for evaluation of innovations in education attempts to maximize the

effectiveness of critical decisions through timely reporting of relevant information in a useful form to appropriate levels of decision-making. Evaluation is thus seen as the combination of effective decisions based on timely, relevant information. The system focuses on four classes of decisions and is designed to yield four kinds of information to serve those decision situations. The four classes of decisions are context evaluation, design evaluation, process evaluation, and product evaluation. Context evaluation consists of planning decisions and the context information that serves those decisions and deals with the setting of priorities and the selection of strategies. Design evaluation entails structuring decisions that depend on design information. In this phase, objectives are specified and means to attain the objectives selected. Process evaluation concerns the possible need to restructure the program after results of pilot testing and previous evaluations are in. Product evaluation considers evidence of the program's effectiveness in attaining its overall goals. Problems in applying this system might include identifying decisions and decision-makers, timing decisions, identifying relevant information, and reporting information in a useful form.

34. Rapp, Marjorie L. "The Analytical Aspects of Evaluating On-Going Programs." Paper presented at American Educational Research Association annual meeting, Chicago, April 1972. 7 pages. ED 062 718 MF \$0.65 HC \$3.29.

This paper presents a model for continuous, systematic evaluation of ongoing programs and specifies data needed for decision-making in the areas of program adoption, curtailment, or expansion. These data give the decision-maker the necessary information for program planning in today's sophisticated educational environment.

35. Reynolds, Harris W., and others. Evaluative Criteria for Vocational Technical Programs. Harrisburg: Bureau of Curriculum Planning and School Evaluation, Pennsylvania State Department of Public Instruction, 1967. 135 pages. ED 022 861 MF \$0.65 HC \$6.58.

Evaluation must be an integral part of the educational process and must be concerned with the continuing development of better procedures and techniques for measuring outcomes of the educational program. The best evaluation is local school district self-evaluation. This manual provides forms for self-evaluation of vocational-technical school programs in the areas of administration, school plant (physical facilities), school library, student activities, guidance, agriculture, business education, distributive education, home economics, technical and industrial education, and general shop-laboratory. The criteria in each area are listed with a three-point rating scale and a space for explanatory notes.

The self-evaluation process should be directed by a steering committee and involve the entire staff of the vocational-technical school. Each staff member should serve on a subcommittee in addition to completing a self-evaluation form in his own area. The steering committee should be responsible for developing a final report from subcommittee reports. As a result of the evaluation, inservice programs should be instituted to bring about the improvements indicated. Procedures for evaluations conducted by the Pennsylvania Department of Public Instruction, Division of Evaluation, are included.

36. Rippey, Robert. "Introduction: What Is Transactional Evaluation?" Paper presented at American Educational Research Association annual meeting, Chicago, April 1972. 6 pages. ED 060 071 MF \$0.65 HC \$3.29.

This paper discusses the characteristics and operation of an evaluation process--transactional evaluation. Concentrating on the effects change has on those effecting the change, transactional evaluation stresses incorporation of both protagonists and antagonists of change into a change-oriented team. A copy of an evaluation questionnaire is included.

37. Sorenson, Garth. "A New Role in Education: The Evaluator." Evaluation Comment, 1, 1 (January 1968). Los Angeles: Center for the Study of Evaluation of Instructional Programs, University of California. 4 pages. ED 021 818 MF \$0.65 HC \$3.29.

With the increase of federal funds for education, a new profession is emerging--the evaluator. His role needs to be more clearly defined. First of all, he must not take an absolutist position in his relationship to other educational experts or he will fail to get the cooperation of teachers and the support of powerful community groups. Second, he must accept certain basic assumptions with regard to educational goals: educational goals should be defined in a process of interaction between professionals and representatives of the society, goals and practices must be varied to accommodate a diverse population and must change as needs and values change, and goals must not be limited to purely academic objectives and must be stated in descriptive rather than interpretive language. The professional evaluator should help teachers and administrators in a given school define their goals in terms of pupil performance, learn how to discover systematically differences among pupils that require particular kinds of instruction, and design and administer evaluation programs to find out which instructional procedures are worthwhile. The research and development evaluator will perhaps bridge the gap between the laboratory and the field by making explicit to the individual teacher the relevance of research findings to the teacher's work.

38. Stake, Robert E. "Toward a Technology for the Evaluation of Educational Programs." In Perspectives of Curriculum Evaluation, American Educational Research Association Monograph Series on Curriculum Evaluation, edited by Ralph W. Tyler and others. Chicago: Rand McNally and Company, 1967. 17 pages. ED 030 948 MF \$0.65 HC \$3.29. (Also available from Rand McNally and Company, P. O. Box 7600, Chicago, Illinois 60680. Complete document, 102 pages, \$3.50.)

Reflecting an increased awareness of the need for comprehensive curriculum evaluation, this monograph focuses on major aspects of curriculum design and development. Curriculum evaluation is the collection, processing, and interpretation of two main kinds of data: objective descriptions of a curriculum's goals, environments, personnel, methods, content, and outcomes; and personal judgments by the evaluator of the curriculum's goals, environments, personnel, methods, content, and outcomes. Available tests related to the evaluation of instruction seldom go beyond achievement testing. New techniques of observation and judgment are needed, with greater attention given diagnostic testing, task analyses, and evaluation of goals. As reported in the growing literature on measurement and evaluation, special techniques employed in the behavioral sciences should be utilized in curriculum evaluation.

39. Stake, Robert E. "An Approach to the Evaluation of Instructional Programs." Paper presented at American Educational Research Association annual meeting, Chicago, April 1972. 8 pages. ED 064 350 MF \$0.65 HC \$3.29.

This paper discusses evaluation of an educational program through portrayal of the program rather than the focus of the program. The author suggests that the program evaluator limit his evaluation aims to what he can do and what the client needs most. The first duty of the evaluator should be to offer the client a comprehensive portrayal of the program.

40. Stake, Robert E. Responsive Evaluation. 1972. 4 pages. ED 075 487 MF \$0.65 HC \$3.29.

The definition, structures, utilities, stimulus-response differences, and portrayals of responsive evaluation are presented. An educational evaluation is said to be responsive if it orients more directly to program activities than to program intents, if it responds to audience requirements for information, and if the different value perspectives present are referred to in reporting the success of the program. The structure of the responsive evaluation follows the primary components of the instructional program. The choice of tests and other data-gathering

devices is based on observation of the program in action and interaction, with various interested groups. Responsive evaluation is particularly useful during both formative and summative evaluation. The principal stimuli of responsive evaluation are those of the program, including responses of students and subsequent dialogue. The responsive approach responds to the natural ways in which people assimilate information and arrive at understanding. Program portrayal may feature descriptions of persons, often by case studies. The challenge to the evaluator is to minimize the sampling error and find ways to authenticate this less scientific method of reporting.

41. Tanner, C. Kenneth. "Program Evaluation in Cost Benefit Terms." Paper presented at American Educational Research Association annual meeting, Minneapolis, March 1970. 15 pages. ED 042 228 MF \$0.65 HC \$3.29.

This paper advances a model, called the expected opportunity loss model, for curriculum evaluation. This decision-making technique utilizes subjective data by ranking courses according to their expected contributions to the primary objective of the total program. The model also utilizes objective data in the form of component costs and differs from traditional cost-effectiveness models in that it places less emphasis on the cost components. The decision model formulates alternatives for decision-making under uncertainty and appraises the probable or conditional opportunity loss. The minimum loss is the optimum decision.

42. Unks, Nancy J., and Cox, Richard C. "A Model for the Evaluation of a Testing Program. Working Paper Number Four of the Program of Studies in Educational Research." Paper presented at American Educational Research Association annual meeting, Chicago, February 1968. Philadelphia: Research for Better Schools, Inc. 7 pages. ED 036 190 MF \$0.65 HC \$3.29.

Evaluation of a testing program is necessary before or during a sound total project evaluation. Ideally, the testing program study should be concurrent with, and equal in magnitude to, the total project evaluation. The first step in an evaluation is definition of testing program objectives in operational terms. The second step is a thorough description of the innovation to be studied. Then the evaluation program should examine the instruments used to conduct tests, obtaining validity, reliability, and item analysis data for all such instruments. A summary interprets information accumulated in the first three phases. This paper presents a diagram of such an evaluation procedure.

43. Wagner, Andrew R. "What You Always Felt You Should Know about PERT, but Were Afraid to Find Out. Expanding Evaluation Concepts.

Applications and Reflections." Paper presented at American Educational Research Association annual meeting, New Orleans, February 1973. 8 pages. ED 075 514 MF \$0.65 HC \$3.29.

PERT is an acronym for Project Evaluation and Review Technique. The first step in a PERT analysis is the listing of every activity required to accomplish the project. This is accomplished in three stages: listing major tasks, assigning dates to each of these tasks, and listing activities that must be performed to accomplish each task. Once a project begins, the manager should hold regular meetings with the task leaders to reanalyze the schedule. The implications of any variances can be discussed in conjunction with supplementary PERT analyses.

44. Welty, Gordon A. The Logic of Evaluation. 1968. 29 pages. ED 026 732 MF \$0.65 HC \$3.29.

The logic of evaluation of educational and other action programs is discussed from a methodological viewpoint. No attempt is made to develop methods of program evaluation. The first part of the document views the structure of an educational program as a system with three components: inputs, transformation of inputs into outputs, and outputs. The second part discusses the necessary condition for a program to be a system: the presence of feedback loops. The school system with an evaluation unit is one example of a program with feedback loops. In the third section, the possibility of mapping experimental designs into social space characterized by feedback loops is confirmed while Stufflebeam's statements to the contrary are refuted. The fourth section examines the historical precedents for the findings and concludes that it is possible, from a methodological viewpoint, to implement a rigorous experimental design and to provide feedback for managerial decision-making in the context of action research.

45. Wentling, Tim L., and Klit, John A. "Meta-Evaluation Applied: The Evaluation of a Large Scale Evaluation System." Paper presented at American Educational Research Association convention, New Orleans, February 1973. 22 pages. ED 075 509 MF \$0.65 HC \$3.29.

This meta-evaluation sought to evaluate the personnel, procedures, and impact of a statewide evaluation system. Personnel evaluation provided both formative and summative information as well as information pertaining to future selection of evaluation personnel. Evaluation of procedures led to many revisions and refinements in the procedures and instrumentation of the evaluation system. The impact study supplied data to indicate that the evaluation system did have considerable impact in bringing about changes and improvements in local plans. Significant

side effects included the reorganization of state education organization consultant services. In addition to meeting the informational needs for revision of the system in Illinois, the meta-evaluation has yielded data to justify the retention of the three-phase system in future years.

46. White, William F. "Information Feedback Systems (IFS) and Educational Goals." Paper presented at Session I of Southeastern Invitational Conference on Measurement in Education, Athens, Georgia, December 1972. 14 pages. ED 075 463 Document not available from EDRS. (Available as part of Invitational Conference on Measurement in Education; Proceedings (of the) Eleventh Southeastern Conference (December 8-9, 1972). Session I, compiled by Thomas M. Goolsby, Jr. Papers presented at Session I of Southeastern Invitational Conference on Measurement in Education, Athens, Georgia, December 1972. Athens: College of Education, University of Georgia. 211 pages. ED 075 449 MF \$0.65 HC \$9.87.)

An information feedback system for evaluating an educational program is described, and its effectiveness in evaluating the Follow Through program and its use in relation to the Iowa Tests of Basic Skills are discussed. The systems approach to program evaluation consists of objectives clarification, decision-making, and program planning. In the Follow Through project, several components are recommended for an ideal information system: administration, dissemination, instruction, medical-dental, nutritional, psychological services, social services, parental involvement, and evaluation. Instruments are used in each component to gather data to register any progress toward component objectives. The text provides an example of instructional feedback in relation to reading achievement (second and third grades) and presents a feedback report for health services in tabular format. Feedback sessions generally focus on three areas: achievement problems, testing skills, and general problem-solving skills. The Iowa Tests of Basic Skills includes Vocabulary, Word Analysis, and Reading Comprehension sections. A sample of one class's item analysis of vocabulary is provided. The Behavioral Maturity Scale can provide feedback to the teacher and the teacher aide about their perceptions of the maturity of each child.

47. Wyllie, Eugene Donald. An Evaluation Plan for Business Education Programs in High Schools. South-Western Monographs in Business and Economic Education, Number 109. 1963. 40 pages. ED 016 851 MF \$0.65 HC \$3.29.

This plan was developed from a doctoral study with the cooperation of members of the Indiana Business Education Association. The plan was used for evaluation purposes in twenty-five high schools and subsequently

revised. The evaluation instrument consists of nine sections: curriculum; instructional content; instructional activities, methods, and procedures; instructional materials; guidance; extraclass activities; home, business, and community relations; physical facilities and equipment; and staff. Each section is divided into subsections. Each subsection is introduced by a criterion followed by a series of checklist items that are specific statements of optimum conditions, practices, and characteristics relating to the comprehensive general criterion. Each staff member is required to make an individual evaluation on specific points of each subsection and a general overall evaluation of the whole subsection. The entire staff, meeting together, then evaluates both the specific items and each subsection as a whole. A departmental profile is constructed in graphic form as a summary of evaluations made of all twenty-seven subsections.

SUBJECT INDEX

- Abstracts 2
- Academic Performance 10
- Achievement Rating 14
- Achievement Tests 28
- Annotated Bibliographies 8, 22
- Audiolingual Methods 21
- Behavioral Objectives 7, 12
- Behavior Change 4
- Business Education 47
- Child Care Workers 31
- Computer Assisted Instruction 30
- Computer Oriented Programs 12, 13, 14
- Cost Effectiveness 14, 41
- Counselor Role 22
- Criterion Referenced Tests 24
- Critical Path Method 6
- Culturally Disadvantaged 10
- Curriculum Evaluation 9, 38, 41
- Decision Making 33, 44
- Driver Education 17
- Educational Accountability 36
- Educational Change 29, 36
- Educational Improvement 27
- Educational Innovation 2, 29, 33
- Educational Objectives 7, 30, 32, 37
- Educational Programs 4, 8, 10, 18, 24
- Educational Research 34
- Educational Researchers 37
- Educational Technology 30
- Elementary School Mathematics 23
- English Departments 19
- English Programs 19
- Evaluation 1, 2, 3, 16, 29
- Evaluation Criteria 2, 16, 19, 20, 26, 30, 32, 35, 38, 39, 40, 44, 47
- Evaluation Methods 8, 15, 25, 32, 36, 42
- Evaluation Techniques 3, 4, 7, 9, 10, 15, 16, 28, 31, 32, 34, 38, 39, 40, 43, 45, 47
- Federal Legislation 29
- Federal Programs 20
- Feedback 44, 46
- Flexible Scheduling 27
- Food Service Workers 31
- Formative Evaluation 34
- Guidance Programs 3
- Guidelines 11, 15, 21
- High School Curriculum 19
- High Schools 27
- Individualized Instruction 26
- Information Needs 40
- Information Systems 6, 46
- Information Utilization 33
- Instructional Films 5
- Instructional Materials 28
- Instructional Programs 9, 39
- Instructional Television 5
- Job Analysis 37
- Junior Colleges 16
- Language Programs 21
- Learning 5

Management 6	Safety Education 17
Management Systems 18	Schedule Modules 27
Manuals 13,14	Secondary School Mathematics 23
Mathematical Models 41	Self Evaluation 35
Mathematics Curriculum 23	State Programs 35,45
Measurement Goals 38	Statewide Planning 25
Measurement Instruments 20	Student Development 22
Methodology 44	Summative Evaluation 12
Models 4,17,18,33	Systems Analysis 34
Modern Language Curriculum 21	Systems Approach 46
Music Education 1	Task Analysis 43
National Programs 20	Test Construction 24
Norm Referenced Tests 24	Testing Programs 42
Occupational Guidance 25	Test Results 46
Occupational Home Economics 31	Textbook Research 23
Performance Criteria 7	Validity 11
Personnel Evaluation 3,45	Vocational Education 13,35
Program Content 39	
Program Descriptions 13,36	
Program Design 15	
Programed Instruction 28	
Program Effectiveness 12,17	
Program Evaluation 1,2,3,4,5,6,7,8, 9,10,11,12,13,14,15,16,17,18,19, 20,21,22,23,24,25,26,27,28,29,30, 31,32,33,34,35,36,37,38,39,40,41, 42,43,44,45,46,47	
Program Improvement 6	
Program Planning 18	
Reading Improvement 11	
Reading Programs 11	
Reading Research 11	
Research Projects 6	